

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of claims:

Claims 1-74 (canceled).

Claim 75 (currently amended): A device, comprising:

a plurality of organic photosensitive subcells stacked in a superposed relationship over a substrate, each subcell comprising a heterojunction between two organic semiconductor materials;

a first organic photosensitive subcell of the plurality of organic photosensitive subcells having a first absorption characteristic;

a second organic photosensitive subcell of the plurality of organic photosensitive subcells having a second absorption characteristic, wherein the second absorption characteristic is different from the first absorption characteristic; and

a conductive layer disposed between and in a superposed relationship with the first organic photosensitive subcell and the second organic photosensitive subcell, wherein the conductive layer is an electrode or charge transfer layer, and wherein the conductive layer is transparent or semitransparent.

Claim 76 (previously presented): The device of claim 75, wherein the conductive layer has a thickness of about 1000 to 4000 angstroms.

Claim 77 (previously presented): The device of claim 76, wherein the conductive layer includes indium tin oxide.

Claim 78 (previously presented): The device of claim 75, wherein the conductive layer is a part of the first organic subcell, and the conductive layer is a part of the second organic subcell.

Claim 79 (previously presented): The device of claim 75, wherein the first and second subcells are adjacent, and the conductive layer is not a part of the first organic subcell.

Claim 80 (previously presented): The device of claim 75, wherein the conductive layer is an electrode.

Claim 81 (previously presented): The device of claim 75, wherein the conductive layer is a charge transfer layer.

Claim 82 (previously presented): The device of claim 75, wherein the first organic photosensitive subcell has an absorption maxima that is different from the absorption maxima of the second organic photosensitive subcell.

Claim 83 (previously presented): The device of claim 75, wherein the first and second subcells are electrically connected in series.

Claim 84 (previously presented): The device of claim 75, wherein the first and second subcells are electrically connected in parallel.

Claim 85 (previously presented): The device of claim 75, wherein the device is optimized for use as a photodetector.

Claim 86 (previously presented): The device of claim 75, wherein the device is optimized for use as a photovoltaic cell.

Claim 87 (previously presented): The device of claim 75, wherein the conductive layer permits at least 50% of the ambient electromagnetic radiation to be transmitted through the layer.

Claim 88 (currently amended): A device, comprising:

a first organic photosensitive subcell having a first spectral sensitivity, stacked in a superposed relationship with a substrate, the first organic photosensitive subcell comprising a first heterojunction between two organic semiconductor materials;

a second organic photosensitive subcell, stacked in a superposed relationship with the first organic photosensitive subcell over the substrate, the second organic photosensitive subcell having a second spectral sensitivity that is different from the first spectral sensitivity and comprising a second heterojunction between two organic semiconductor materials; and

a conductive layer disposed between and in a superposed relationship with the first organic photosensitive subcell and the second organic photosensitive subcell, wherein the conductive layer is an electrode or charge transfer layer, and wherein the conductive layer is transparent or semitransparent.

Claim 89 (previously presented): The device of claim 88, wherein the conductive layer has a thickness of about 1000 to 4000 angstroms.

Claim 90 (previously presented): The device of claim 89, wherein the conductive layer includes indium tin oxide.

Claim 91 (previously presented): The device of claim 88, wherein the conductive layer is a part of the first organic subcell, and the conductive layer is a part of the second organic subcell.

Claim 92 (previously presented): The device of claim 88, wherein the first and second subcells are adjacent, and the conductive layer is not a part of the first organic subcell.

Claim 93 (previously presented): The device of claim 88, wherein the conductive layer is an electrode.

Claim 94 (previously presented): The device of claim 88, wherein the conductive layer is a charge transfer layer.

Claim 95 (previously presented): The device of claim 88, wherein the first subcell has an absorption maxima that is different from the absorption maxima of the second subcell.

Claim 96 (previously presented): The device of claim 88, wherein the first and second subcells are electrically connected in series.

Claim 97 (previously presented): The device of claim 88, wherein the first and second subcells are electrically connected in parallel.

Claim 98 (previously presented): The device of claim 88, wherein the device is optimized for use as a photodetector.

Claim 99 (previously presented): The device of claim 88, wherein the device is optimized for use as a photovoltaic cell.

Claim 100 (previously presented): The device of claim 88, wherein the conductive layer permits at least 50% of the ambient electromagnetic radiation to be transmitted through the layer.

Claim 101 (currently amended): A device, comprising:

a plurality of organic photosensitive subcells stacked in a superposed relationship over a substrate, each subcell comprising a heterojunction between two organic semiconductor materials;

wherein the plurality of organic photosensitive subcells is comprised of subcells having dissimilar absorption characteristics; and

wherein two adjacent subcells are connected by a charge transfer layer that is isolated from external circuits, wherein the charge transfer layer is transparent or semitransparent.

Claim 102 (previously presented): The device of claim 101, wherein every pair of adjacent subcells are connected by a charge transfer layer that is not directly connected electrically to an external circuit.

Claim 103 (previously presented): The device of claim 101, wherein the charge transfer layer comprises a low resistance metal substitute material that has been deposited by sputtering.

Claim 104 (previously presented): The device of claim 103, wherein the charge transfer layer further comprises a metallic layer.

Claim 105 (previously presented): The device of claim 101, wherein the device is optimized for use as a photodetector.

Claim 106 (previously presented): The device of claim 101, wherein the device is optimized for use as a photovoltaic cell.

Claim 107 (previously presented): The device of claim 101, wherein the charge transfer layer has a thickness of about 1000 to 4000 angstroms.

Claim 108 (previously presented): The device of claim 107, wherein the charge transfer layer includes indium tin oxide.

Claim 109 (previously presented): The device of claim 101, wherein the charge transfer layer permits at least 50% of the ambient electromagnetic radiation to be transmitted through the layer.

Claim 110 (new): The device of claim 75, wherein a material composition of the first organic photosensitive subcell is different from a material composition of the second organic photosensitive subcell.

Claim 111 (new): The device of claim 88, wherein a material composition of the first organic photosensitive subcell is different from a material composition of the second organic photosensitive subcell.